

SCIENCE: UNIT 5 PLAN

TITLE: THE ATMOSPHERE

GROUP: 1º ESO

*** Most of the information I have used to plan this unit is from <http://www.ieslosremedios.org/~pablo/webpablo/web1eso/3atmosphere/guiaatmosphere.html>.**

RESOURCES AND MATERIALS:

- Students Activity Book .
- Schemes on the blackboard.
- Presentations with the computer.
- Internet (pictures, interactive exercises...).
- Interpretation of weather maps and other graphics.
- Educational films.

AIMS

ENGLISH:

- Describe what the weather is like looking at different pictures and talking about temperature(freezing, cold, cool, mild, temperate, warm, hot), precipitation (rain, heavy rain, showers, hail, snow), wind (calm, breeze, moderate wind, strong wind, hurricane, tornado) and state of the sky (sunny, sunshine, cloudy, clear sky, overcast).
- Looking at a weather map explain the weather forecast for different parts of the map (North, South, West, East, Northern, Southern, Western, Eastern...).
- Learning specific terminology: atmosphere, air, oxygen, breathe, layer, warming, greenhouse, fog, lightning, thunder, rainbow, atmospheric pressure, humidity, precipitations, forecast, pollution, climate change

CONTENT:

-Enumerate the main components in the atmosphere and explain the origin of oxygen.

-Point the changes of density, atmospheric pressure and temperature from the bottom of the atmosphere to the top.

-Give reasons why the atmosphere is so important for living beings.

-List elements used to describe weather.

-Intrepret a simple weather map.

-Explain negative consequences from atmospheric pollution.

-Propose solutions for atmospheric pollution.

ACTIVITIES

-Making graphics.

-Interpreting graphics and answering quesitonaires.

-Describing different kinds of weather watched on photographs.

- -Interpreting weather maps.

-Completing comparative charts.

-Working on the Internet.

-Free dialogue in class.

CONTENTS

CONCEPTS:

Composition of the atmosphere.

-The layers in the atmosphere.

-Elements of the weather.

-The weather maps.

-Atmospheric pollution and its effects.

PROCEDURES:

-Extract information from schemes, graphics and maps.-

ATTITUDES:

-Value our planet and its rare balance in atmospheric gases.

-Interest to know and to understand the changing weather.

-Recognise the impact on the atmosphere in our lifestyle.

-Develop personal behaviours to reduce atmospheric pollution.

ASSESSMENT

Written tests.

Homework.

ACTIVITIES UNIT 5

1. CONCEPT OF ATMOSPHERE

1.1 Fill in all the gaps

ATMOSPHERE

DENSITY

LAYER

MIXTURE

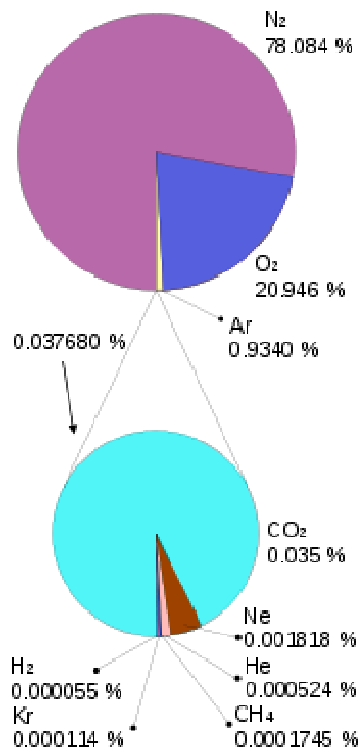
The atmosphere is a gaseous _____ which surrounds our planet. It is made of air which is a _____ of gases. The gas particles are closer at the bottom of the atmosphere than at the top. So the _____ decreases towards the highest layers of the _____.

2. COMPOSITION OF THE ATMOSPHERE



Atmospheric gases scatter blue light more than other wavelengths, giving the Earth a blue halo when seen from space

Components of dry air	(volume)
<u>Nitrogen</u>	78.0842%
<u>Oxygen</u>	20.9463%
<u>Argon</u>	0.9342%
<u>Carbon dioxide</u>	0.0384%
<u>Other</u>	0.0020%



Composition of Earth's atmosphere as of Dec. 1987. The lower pie represents the least common gases that compose 0.038% of the atmosphere. Values normalized for illustration.

2.1 Fill in the gaps

The main gas in the atmosphere is _____.

a-hydrogen b-oxygen c-water d-nitrogen

The atmospheric pressure is _____.

- a- higher at the bottom of the atmosphere.
- b- lower at the top of the atmosphere.
- c- The same in any place in the atmosphere.

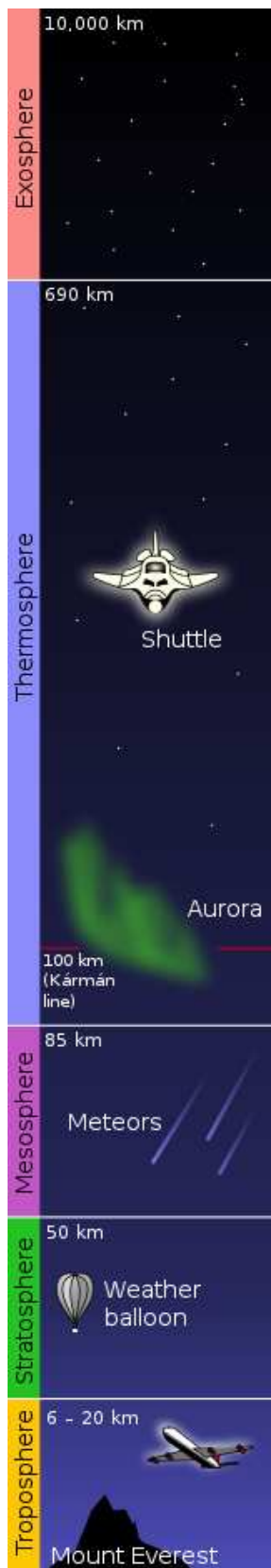
The Earth atmosphere is plenty of a gas which doesn't appear in other planets. Which gas is it?

a-oxygen b nitrogen c-carbon dioxide d-methane.

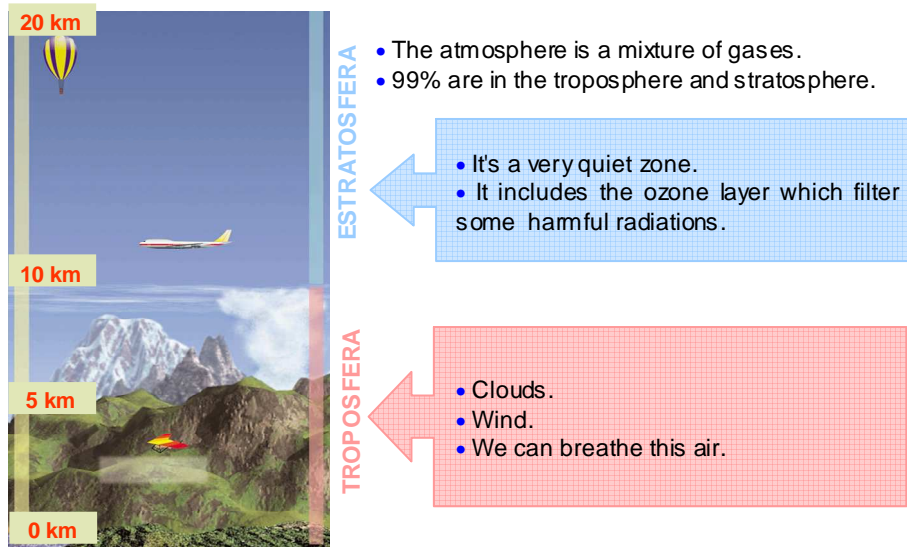
Why our planet is rich in oxygen?

- a- Because it is near the Sun.
- b- Because of the plants.
- c- Because it is far from the Sun.
- d- Because of the volcan.

3. THE LAYERS IN THE ATMOSPHERE.



THE ATMOSPHERE PROTECT US



3.1 Fill in the gaps

LIVING BEINGS

OXYGEN

ULTRAVIOLET RAYS

WARMING

The atmosphere is very important for _____ because:

- it contains the _____ we need to breathe.
- It favours the _____ of the Earth.
- It Protect us from _____.

4. THE WEATHER

Temperature: freezing, cold, cool, temperate, mild, warm, hot.

• **Precipitation:** rain, snow, hail, heavy rain, flood....

• **Winds:** calm, breeze, moderate wind, strong winds, gale, tornado, hurricane

• **State of the sky:** clear sky (or sunny sky), cloudy sky, overcast, fog...

• **Other phenomena:** thunder, lightning, rainbow...

Read the following weather forecast and then draw the suitable symbols onto the map:

Rain is possible specially in the Southeast of England, cloudy sky in Wales and clear skies in the rest of the United Kingdom. Very strong winds from the Northeast in Wales and light winds from the North in England and Scotland. Temperatures rising.



Write a weather description for this map:



WEATHER ELEMENTS AND INSTRUMENTS TO MEASURE THEM

Match the items on the right to the items on the left

Temperature

Atmospheric pressure

Humidity

Precipitation

Wind direction

Thermometer

Hygrometer

Pluviometer or rain gage

Barometer

Vane

STATES OF THE SKY

Match the items on the right to the items on the left.

Cielo cubierto	Overcast
Cielo nublado	Cloudy
Cielo despejado	Sunny
Soleado	Rainbow
Arcoiris	Clear sky

TYPES OF WIND

Translate:

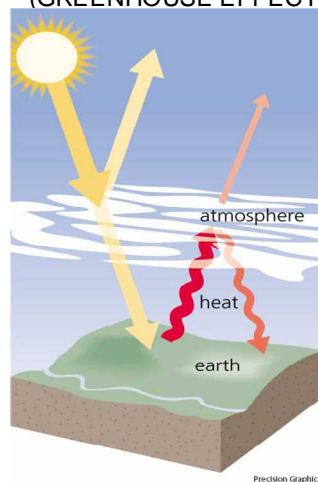
Gale
Calm
Tornado
Moderate wind
Breeze
Strong wind

CAUSES OF ATMOSPHERIC POLLUTION

Match the items on the right to the items on the left.

Global warming	CFC gases
Hole in the ozone layer	Fumes in cities
Smog	Carbon dioxide

THE ATMOSPHERE WARMS THE EARTH
(GREENHOUSE EFFECT)



Relate using arrows:

Flakes	Hailstone
Balls of Ice	Rain
Liquid water	Snow

- . Which type of precipitation is more dangerous for agriculture?
- . Which type is the most usual in Ubrique?
- . Which type is the most common at the top of the mountains?

GLOSSARY.

Atmospheric pressure: presión atmosférica.

Breathe: respirar.

Breeze: brisa.

Clear sky: cielo despejado.

Cloud/cloudy: nube/nuboso.

Cold: frío

Degrees Celsius: grados centígrados.

Drizzle: llovizna.

Drop: gota.

East: Este.

England: Inglaterra.

Fog or mist: niebla.

Forecast: pronóstico.

Global warming: calentamiento global.

Great Britain: Gran Bretaña.

Greenhouse effect: efecto invernadero.

Hail: granizo.

Highest temperature: temperatura máxima.

Hole in the ozone layer: agujero en la capa de ozono.

Humidity: humedad.

Hurricane: huracán.

Ice: hielo.

Layer: capa.

Lightning: rayo, relámpago.

Lowest temperature: temperatura mínima.

North: norte.

Northern Ireland: Irlanda del Norte.

Overcast: cielo cubierto.

Oxygen: oxígeno.

Pollution: contaminación.

Precipitation: precipitación.

Rain: lluvia.

Scotland: Escocia.

Smog: nieblas contaminantes.

Snow: nieve.

Sky: cielo.

South: sur.

State of the sky: estado del cielo.
Sunny, sunshine: soleado.
Storm: tormenta.
Temperate: templado.
Temperature: temperatura.
Thunder: trueno.
Tornado: tornado.
United Kingdom: Reino Unido.
Wales: Gales.
Warm: cálido (no confundir con hot)
Weather: tiempo (atmosférico).
West: oeste.
Wind/windy: viento/ventoso.